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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/077,055

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Seung-Hwan Moon

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8407

7590

01/29/2004

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EXAMINER

LAO, LUN YI

ART UNIT

PAPER NUMBER

2673

DATE MAILED: 01/29/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/077,055

Applicant(s)

MOON, SEUNG-HWAN

Examiner

Lao Y Lun

Art Unit

2673

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) 15 and 16 is/are allowed.
- 6) ☒ Claim(s) 1-14, 17 and 18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 112***

1. Claims 1-7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The limitation for " a first voltage(Von), a second voltage(AVDD) and a third voltage(CVDD)" cited in claims 1-3 and 6 is not consistent with a first voltage(AVDD) and a second voltage(CVDD) cited in the specification(see paragraph #38 and #40).

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 8 –12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kastan et al(5,109,219) in view of Goode, III et al(6,297,790).

Kastan et al teach a driving voltage for generating a first voltage based on an externally input power(see figures 1-2; 5-6; column 2, lines 34-37 and column 5, lines 6-31); a decoder for decoding information of the viewing angle received by operation of a

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user(see figures 1-2, 5-6, column 2, lines 34-41; column 3, lines 30-68 ; column 4, lines 1-32 and column 5, lines 6-31); a power selector(14) having a plurality of voltage sources, for selecting any one of the voltage sources based on the information of the viewing angle input by a user to generate a second voltage(18); a viewing angle generator for generating information about the viewing angle based on the first and second voltages(see figures 1-3; column 3, lines 30-43 and column 4, lines 33-60).

Kastan et al fail to select a liquid crystal gamma curve based on the received information about the viewing angle.

Good et al teach an LCD display comprising a gamma curve Determiner(DAS) for selecting a liquid crystal gamma curve corresponding to the received information about the viewing angle, and controlling a gray level with a gamma voltage value based on the selected liquid crystal gamma curve(see figures 1-4; column 3, lines 1-68; column 4, lines 1-14; column 7, lines 15-67 and column 8, lines 1-37). It would have been obvious to have modified Good et al with the teaching of Kastan et al, so as to provide a high quality of an LCD display with the gamma correction of the viewing angle(see Good et al's column 1, lines 9-10).

As to claim 9, Good et al teach the first voltage can be an analog driving voltage(the viewing angle adjusted by a knob(see column 2, lines 19-35).

As to claim 11, Kastan et al teach an LCD display having a viewing angle generator comprises: a first resistor(25) receiving the driving voltage at one terminal thereof; and a second resistor(26) having one terminal connected to a reference voltage or ground, and another terminal connected to another terminal of the first resistor(25), for lowering a level of the analog driving voltage and feeding the level-dropped analog driving voltage back to the second input of the driving voltage generator(see figure 3)

As to claim 12, Good et al teach the first resistor could be a variable resistor(see column 2, lines 19-23).

4. Claims 13 and 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsui(5,754,150) in view of Kastan et al(5,109,219).

Matsui teach an LCD display having a variable resistor, wherein the variable resistor varies voltage application being a function of visual field angle(see figure 3; column 2, lines 34-54; column 4, lines 56-65 and column 10, lines 7-53).

Matsui fails to disclose a notebook computer.

Kastan et al teach an since the LCD used in a notebook computer(see column 1, lines 14-30). It would have been obvious to have modified Matsui with the teaching of

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Kastan et al, since the LCD display having be reduced in the depth weight and power dissipation comparing to a CRT display.

5. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Matsui(5,754,150) in view of Kastan et al(5,109,219) and Ferrel et al(6,628,255).

Matsui as modified fail to disclose the variable resistor for changing the viewing angle of a display mounted on a hinge of the LCD display.

Ferrel et al teach a resistor for varying the viewing angle of an LCD display mounted on a hinge of the LCD display(see figure 1; column 1, lines 61-68 and column 2, lines 1-7). It would have been obvious to have modified Matsui as modified with the teaching of Ferrel et al, so as to provide more convenience for a user to adjust the view angle by a user's thumb when a user holding a computer.

### ***Allowable Subject Matter***

6. Claims 15-16 are allowable.

### ***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Chen et al(6,256,010) teach a method for correcting the gamma curve of an LCD display.

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Moon(5,625,387) teaches a gray voltage generator for an LCD display for controlling a viewing angle of the liquid crystal via a shift of a gray reference voltage by adjusting a size of the gray reference voltage level.

Nakamura(5,243,454) teaches an LCD display having a correcting circuit for changing a level of the image signal within a predetermined period to thereby correct the change of display quality of the panel due to the change of the view angle.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lun-yi, Lao whose telephone number is (703) 305-4873.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala, can be reached at (703) 305-4938.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks  
Washington, D.C. 20231

or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

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January 22, 2004

*Lun-yi Lao*  
Lun-yi Lao

Primary Examiner